



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/779,524	02/13/2004	Yong-Kuk Yun	8054-38 (LW9081US/CS)	8916
22150	7590	10/19/2004		
F. CHAU & ASSOCIATES, LLC 130 WOODBURY ROAD WOODBURY, NY 11797			EXAMINER TADESSE, YEWEBDAR T	
			ART UNIT	PAPER NUMBER
			1734	

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/779,524

Applicant(s)

YUN ET AL.

Examiner

Yewebdar T Tadesse

Art Unit

1734

*[Handwritten signature]*

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 12-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election with traverse of group I in the reply filed on 09/16/2004 is acknowledged. The traversal is on the ground(s) that "applicant believes that simultaneous examination will not present an undue burden. For example, the claims of Group I are drawn to an apparatus for forming an organic layer on a substrate and the claims of Group II are drawn to a method of forming an organic layer on a substrate. The two Groups of claims include subject matters can be found in class 118. ". This is not found persuasive because elected claims (1-11 and 19-20) the apparatus for forming an organic layer, as stated in the restriction requirement (see paragraph 2), can be used to practice materially different process such as forming a non-organic layer on a substrate. As such, the two groups inventions have acquired a separate status and are patentably distinct whose examination together place an undue burden on the examiner.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 12-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 09/16/2004.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 3-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Akahira (US 2001/0026307 A1). As to claims 1 and 5, Akahira discloses (see paragraph 183 and Figs 14A, 19A-19F) an apparatus for forming an organic layer on a substrate comprising a spraying device having at least one head unit (ink jet heads 55R, 55G, 55B) and a plurality of heads (spraying nozzles) alternatively disposed in the first and second sub rows to form a zigzag pattern on the at least one head unit. As to claim 3, Akahira discloses a stage (52) that supports the substrate. As to claim 4, Akahira discloses (see paragraph 246) a recording head of a cartridge type, with which an ink tank is integrally formed. As to claim 6, Akahira discloses (see paragraphs 141, 218 and claim 19) an inkjet head using a piezoelectric device. As to claims 7-8, Akahira discloses (see paragraph 153 and Fig 8B) ink-jet heads inclined at predetermined angle (capable of being in the range of about 0° to about  $\pm 89^\circ$ ) with respect to a side of the substrate. As to claim 9, Akahira discloses (see Fig 2, Abstract and paragraph 117) a transferring device (stage control unit 71) that transfer the stage (XYθ stage) in a first printing direction and a second printing direction that is opposite to the first printing direction and a third direction that is perpendicular to the first printing direction (scanning a first direction and a second direction perpendicular to the first). As to

Art Unit: 1734

claims 10-11, Akahira discloses (see paragraph 218) a fixed spraying device or the XY0 stage is fixed while the spraying devices moving in directions X or Y.

5. Claim 19 is rejected under 35 U.S.C. 102(b) as being anticipated by Akahira et al (US 6,145,981). Akahira '981 teaches (see column 128, lines 9-19) an apparatus for forming an organic layer on a substrate, in which a plurality of ink-jet heads arranged in a row and each ink-jet is capable of being shifted a horizontal distance from a previous ink-jet by adjustment mechanisms (see Fig 21).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akahira (US 2001/0026307 A1) as applied to claim 1 and further in view of Akahira et al (US 6,145,981). Akahira lacks teaching a plurality of head units each formed in a corresponding row and wherein each head unit is shifted a horizontal distance from a previous head unit. Akahira '981 discloses (see column 128, lines 9-19) a plurality of ink-jet heads arranged in a row wherein each ink-jet is capable of being shifted a horizontal distance from a previous ink-jet by adjustment mechanisms (see Fig 21). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a plurality of head units each formed in a corresponding row in Akahira '307 to shorten the time required for manufacturing a filter as taught by Akahira '981.

9. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akahira et al (US 6,145,981) as applied to claim 19 above and further in view of Akahira (US 2001/0026307 A1). Akahira et al '981 lacks teaching a plurality of heads alternatively disposed in the first and second sub rows to form a zigzag pattern on the at least on head unit. Akahira '307 discloses (see paragraph 183 and Figs 14A, 19A-19F) an apparatus for forming an organic layer on a substrate comprising a spraying device having at least one head unit (ink jet heads 55R, 55G, 55B) and a plurality of heads (spraying nozzles) alternatively disposed in the first and second sub rows to form a zigzag pattern on the at least on head unit. It would have been obvious to one of

Art Unit: 1734

ordinary skill in the art at the time the invention was made to include a plurality of heads alternatively disposed in the first and second sub rows to form a zigzag pattern on the at least on head unit in Akahira et al '981 to manufacture a display device having color arrangement of a zigzag pattern.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yewebdar T Tadesse whose telephone number is (571) 272-1238. The examiner can normally be reached on Monday-Friday 8:00 AM-4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Yewebdar T. Tadesse*  
YTT

*Chris Fiorilla*  
CHRIS FIORILLA  
SUPERVISORY PATENT EXAMINER  
AU 1734